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(54) ELECTRONIC CIGARETTE

ELEKTRONISCHE ZIGARETTE

CIGARETTE ÉLECTRONIQUE

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Description

[0001] This disclosure relates to an electronic cigarette.

[0002] Electronic cigarettes atomize nicotine-containing e-liquid. Document EP 3 278 679 A1 shows an example of electronic cigarette.

[0003] Conventionally, the e-liquid inlet of the electronic cigarettes is sealed by an unfixed plug which tends to be squeezed out by external force.

[0004] In addition, the pneumatic switch and the e-liquid tank are vertically aligned. When the e-liquid leakage happens, the pneumatic switch fails to work.

[0005] The disclosure provides an electronic cigarette. The e-liquid inlet of the electronic cigarette is reliably sealed.

[0006] Provided is an electronic cigarette, comprising a mouthpiece assembly, an atomizing assembly, and a battery assembly. The mouthpiece assembly is disposed on the atomizing assembly. The atomizing assembly is disposed in the battery assembly.

[0007] The mouthpiece assembly comprises a mouthpiece and a mouthpiece cap covering the mouthpiece.

[0008] The atomizing assembly comprises a limit cover, a heating wire, a silicone support, and joints.

[0009] The battery assembly comprises a rotatable cover, a silicone seal, a seal ring, a cartridge, a silicone connector, a battery cell, a pneumatic switch, a silicone base, and a base sleeve.

[0010] The heating wire is disposed in the silicone support; the silicone support comprises a bottom end which is provided with two holes; the joints are inserted in the two holes, and two pins of the heating wire are fixed in the silicone support via the two joints; the silicone support is disposed in the limit cover; the silicone connector is disposed in the cartridge and connect and fix the atomizing assembly; the pneumatic switch is disposed in the silicone base, and positive and negative electrodes of the pneumatic switch are connected to positive and negative electrodes of the battery cell, respectively; the battery cell, the pneumatic switch, and the silicone base are disposed in the cartridge; the cartridge comprises an e-liquid tank and an e-liquid inlet communicating with the e-liquid tank; the rotatable cover is adapted to cover the e-liquid inlet; the base sleeve is sheathed on the cartridge; the cartridge comprises a joint pin adapted to connect to the mouthpiece; the seal ring is sheathed on the joint pin of the cartridge; the silicone seal is disposed on the cartridge; the rotatable cover is rotatably disposed on the cartridge and covers the silicone seal.

[0011] The pneumatic switch can be disposed in a first position of the cartridge, the e-liquid tank can be disposed in a second position of the cartridge, and the first position can be unaligned with the second position vertically.

[0012] Advantages of the electronic cigarette according to embodiments of the disclosure are summarized as follows. The pneumatic switch is disposed in a first position of the cartridge, the e-liquid tank is disposed in a second position of the cartridge, and the first position is unaligned with the second position vertically. The rotatable cover can horizontally rotate on the cartridge. When the rotatable cover is pushed to one side, the e-liquid inlet of the cartridge is exposed and the e-liquid can be injected. After the injection is finished, push the rotatable cover to seal the e-liquid inlet. The electronic cigarette in the disclosure is oval, small-sized and easy to carry.

FIG. 1 is an exploded view of an electronic cigarette as described in the disclosure;

FIG. 2 is an exploded view of a mouthpiece assembly of an electronic cigarette as described in the disclosure

FIG. 3 is an exploded view of an atomizing assembly of an electronic cigarette as described in the disclosure;

FIG. 4 is an exploded view of a battery assembly of an electronic cigarette as described in the disclosure;

FIG. 5 is a stereogram of an electronic cigarette as described in the disclosure; and

FIG. 6 is a sectional view of an electronic cigarette as described in the disclosure.

[0013] To further illustrate, embodiments detailing an electronic cigarette are described below. It should be noted that the following embodiments are intended to describe and not to limit the disclosure.

[0014] As shown in FIGS. 1-6, provided is an electronic cigarette, comprising: a mouthpiece assembly A, an atomizing assembly B, and a battery assembly C. The mouthpiece assembly A is disposed on the atomizing assembly B. The atomizing assembly B is disposed in the battery assembly C.

[0015] The mouthpiece assembly A comprises a mouthpiece 2 and a mouthpiece cap 1 covering the mouthpiece 2.

[0016] The atomizing assembly B comprises a limit cover 3, a heating wire 4, a silicone support 5, and joints 6. The heating wire 4 is disposed in the silicone support 5; the silicone support 5 comprises a bottom end which is provided with two holes; the joints 6 are inserted in the two holes, and two pins of the heating wire are fixed in the silicone support via the two joints 6; the silicone support 5 is disposed in the limit cover 3.

[0017] The battery assembly comprises a rotatable cover 7, a silicone seal 8, a seal ring 9, a cartridge 10, a silicone connector 11, a battery cell 12, a pneumatic switch 13, a silicone base 14, and a base sleeve 15. The silicone connector 11 is disposed in the cartridge 10 and connect and fix the atomizing assembly; the pneumatic switch 13 is disposed in the silicone base 14, and positive and negative electrodes of the pneumatic switch 13 are

connected to positive and negative electrodes of the battery cell 12, respectively; the battery cell 12, the pneumatic switch 13, and the silicone base 14 are disposed in the cartridge 10; the cartridge 10 comprises an e-liquid tank and an e-liquid inlet communicating with the e-liquid tank; the rotatable cover 7 is adapted to cover the e-liquid inlet; the base sleeve 15 is sheathed on the cartridge 10; the cartridge comprises a joint pin adapted to connect to the mouthpiece; the seal ring 9 is sheathed on the joint pin of the cartridge 10; the silicone seal 8 is disposed on the cartridge 10; the rotatable cover 7 is rotatably disposed on the cartridge 10 and covers the silicone seal 8.

[0018] The pneumatic switch 13 is disposed in a first position of the cartridge 10, the e-liquid tank is disposed in a second position of the cartridge 10, and the first position is unaligned with the second position vertically.

[0019] The rotatable cover 7 can horizontally rotate on the cartridge 10. When the rotatable cover 7 is pushed to one side, the e-liquid inlet of the cartridge 10 is exposed and the e-liquid can be injected. After the injection is finished, push the rotatable cover 7 to seal the e-liquid inlet. The electronic cigarette in the disclosure is oval, small-sized and easy to carry.

[0020] It will be obvious to those skilled in the art that changes and modifications may be made, and therefore, the aim in the appended claims is to cover all such changes and modifications.

Claims

1. An electronic cigarette, comprising:

   a mouthpiece assembly (A), the mouthpiece assembly (A) comprising a mouthpiece (2) and a mouthpiece cap (1) covering the mouthpiece (2);
   an atomizing assembly (B), the atomizing assembly comprising a limit cover (3), a heating wire (4), a silicone support (5), and joints (6); and
   a battery assembly (C), the battery assembly comprising a rotatable cover (7), a silicone seal (8), a seal ring (9), a cartridge (10), a silicone connector (11), a battery cell (12), a pneumatic switch (13), a silicone base (14), and a base sleeve (15);

   wherein:

   the mouthpiece assembly (A) is disposed on the atomizing assembly (B);
   the atomizing assembly (B) is disposed in the battery assembly (C);
   the heating wire (4) is disposed in the silicone support (5);
   the silicone support (5) comprises a bottom end which is provided with two holes; the joints (6) are inserted in the two holes, and two pins of the heating wire are fixed in the silicone support via the two joints (6);
   the silicone support (5) is disposed in the limit cover (3);
   the silicone connector (11) is disposed in the cartridge (10) and connect and fix the atomizing assembly;
   the pneumatic switch (13) is disposed in the silicone base (14), and positive and negative electrodes of the pneumatic switch (13) are connected to positive and negative electrodes of the battery cell (12), respectively; the battery cell (12), the pneumatic switch (13), and the silicone base (14) are disposed in the cartridge (10);
   the cartridge (10) comprises an e-liquid tank and an e-liquid inlet communicating with the e-liquid tank; the rotatable cover (7) is adapted to cover the e-liquid inlet;
   the base sleeve (15) is sheathed on the cartridge (10); the cartridge comprises a joint pin adapted to connect to the mouthpiece; the seal ring (9) is sheathed on the joint pin of the cartridge (10); the silicone seal (8) is disposed on the cartridge (10); the rotatable cover (7) is rotatably disposed on the cartridge (10) and covers the silicone seal (8).

2. The electronic cigarette of claim 1, wherein: the pneumatic switch (13) is disposed in a first position of the cartridge (10), the e-liquid tank is disposed in a second position of the cartridge (10), and the first position is unaligned with the second position vertically.

Patentansprüche

1. Elektronische Zigarette, umfassend:

   eine Mundstück-Baugruppe (A), wobei die Mundstück-Baugruppe (A) ein Mundstück (2) und eine Mundstück-Kappe (1) umfasst, die das Mundstück (2) abdeckt;
   eine Zerstäubungs-Baugruppe (B), wobei die Zerstäubungs-Baugruppe eine Endabdeckung (3), einen Heizdraht (4), eine Silikonhalterung (5) und Verbindungsstücke (6) umfasst; und
   eine Batterie-Baugruppe (C), wobei die Batterie-Baugruppe eine drehbare Abdeckung (7), eine Silikondichtung (8), einen Dichtring (9), eine Kassette (10), ein Silikonverbindungsstück (11), eine Batteriezelle (12), einen pneumatischen Schalter (13), einen Silikonsockel (14) und eine Sockelhülse (15) umfasst;

   wobei:

   die Mundstück-Baugruppe (A) auf der Zerstäu-

bungs-Baugruppe (B) angeordnet ist;
die Zerstäubungs-Baugruppe (B) in der Batterie-Baugruppe (C) angeordnet ist;
der Heizdraht (4) in der Silikonhalterung (5) angeordnet ist;
die Silikonhalterung (5) ein unteres Ende umfasst, das mit zwei Löchern versehen ist; die Verbindungsstücke (6) in die beiden Löcher eingeführt sind, und zwei Stifte des Heizdrahts über die beiden Verbindungsstücke (6) in der Silikonhalterung fixiert sind;
die Silikonhalterung (5) in der Endabdeckung (3) angeordnet ist;
das Silikonverbindungsstück (11) in der Kassette (10) angeordnet ist und die Zerstäubungs-Baugruppe verbindet und fixiert;
der pneumatische Schalter (13) in dem Silikonsockel (14) angeordnet ist, und positive und negative Elektroden des pneumatischen Schalters (13) mit positiven bzw. negativen Elektroden der Batteriezelle (12) verbunden sind; die Batteriezelle (12), der pneumatische Schalter (13) und der Silikonsockel (14) in der Kassette (10) angeordnet sind;
die Kassette (10) einen E-Liquid-Tank und einen E-Liquid-Einlass umfasst, der mit dem E-Liquid-Tank in Verbindung steht; die drehbare Abdeckung (7) ausgebildet ist, den E-Liquid-Einlass abzudecken;
die Sockelhülse (15) die Kassette (10) umgibt; die Kassette einen Verbindungsstift umfasst, der ausgebildet ist, mit dem Mundstück verbunden zu werden; der Dichtring (9) den Verbindungsstift der Kassette (10) umgibt;
die Silikondichtung (8) auf der Kassette (10) angeordnet ist; die drehbare Abdeckung (7) drehbar auf der Kassette (10) angeordnet ist und die Silikondichtung (8) abdeckt.

2. Elektronische Zigarette nach Anspruch 1, wobei: der pneumatische Schalter (13) an einer ersten Position der Kassette (10) angeordnet ist, der E-Liquid-Tank an einer zweiten Position der Kassette (10) angeordnet ist, und die erste Position mit der zweiten Position vertikal nicht ausgerichtet ist.

Revendications

1. Cigarette électronique, comprenant :

un ensemble d'embout buccal (A), l'ensemble d'embout buccal (A) comprenant un embout buccal (2) et un capuchon d'embout buccal (1) recouvrant l'embout buccal (2) ;
un ensemble d'atomisation (B), l'ensemble d'atomisation comprenant un couvercle de limite (3), un câble de chauffage (4), un support en silicone (5), et des joints (6) ; et
un ensemble batterie (C), l'ensemble batterie comprenant un couvercle rotatif (7), un joint en silicone (8), une bague d'étanchéité (9), une cartouche (10), un connecteur en silicone (11), une cellule de batterie (12), un commutateur pneumatique (13), une base en silicone (14), et un manchon de base (15) ;

dans laquelle :

l'ensemble d'embout buccal (A) est disposé sur l'ensemble d'atomisation (B) ;
l'ensemble d'atomisation (B) est disposé dans l'ensemble batterie (C) ;
le câble de chauffage (4) est disposé dans le support en silicone (5) ;
le support en silicone (5) comprend une extrémité inférieure qui est munie de deux trous ; les joints (6) sont insérés dans les deux ou, et deux broches du câble de chauffage sont attachées dans le support en silicone par l'intermédiaire des deux joints (6) ;
le support en silicone (5) est disposé dans le couvercle de limite (3) ;
le connecteur en silicone (11) est disposé dans la cartouche (10) et relie et attache l'ensemble d'atomisation ;
le commutateur pneumatique (13) est disposé dans la base en silicone (14), et des électrodes positives et négatives du commutateur pneumatique (13) sont reliées à des électrodes positives et négatives de la cellule de batterie (12), respectivement ; la cellule de batterie (12), le commutateur pneumatique (13), et la base en silicone (14) sont disposés dans la cartouche (10) ;
la cartouche (10) comprend un réservoir de liquide électronique et une entrée de liquide électronique communiquant avec le réservoir de liquide électronique ; le couvercle rotatif (7) est adapté pour recouvrir l'entrée de liquide électronique ;
le manchon de base (15) est gainé sur la cartouche (10) ; la cartouche comprend une goupille d'articulation adaptée pour se relier à l'embout buccal ; la bague d'étanchéité (9) est gainée sur la goupille d'articulation de la cartouche (10) ;
le joint en silicone (8) est disposé sur la cartouche (10) ; le couvercle rotatif (7) est disposé de manière rotative sur la cartouche (10) et recouvre le joint en silicone (8).

2. Cigarette électronique selon la revendication 1, dans laquelle : le commutateur pneumatique (13) est disposé dans une première position de la cartouche (10), le réservoir de liquide électronique est disposé

dans une seconde position de la cartouche (10), et la première position n'est pas alignée avec la seconde position de manière verticale.

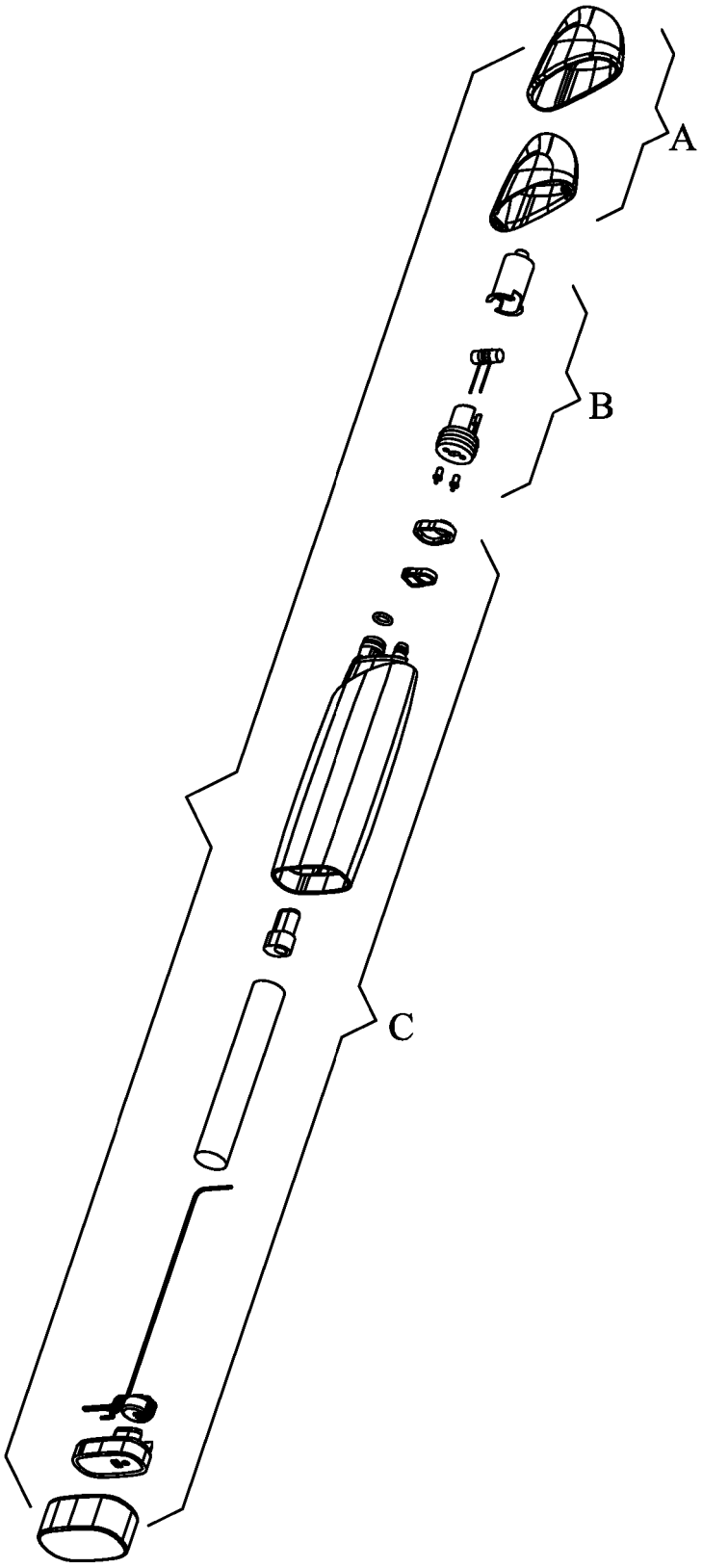

FIG. 1

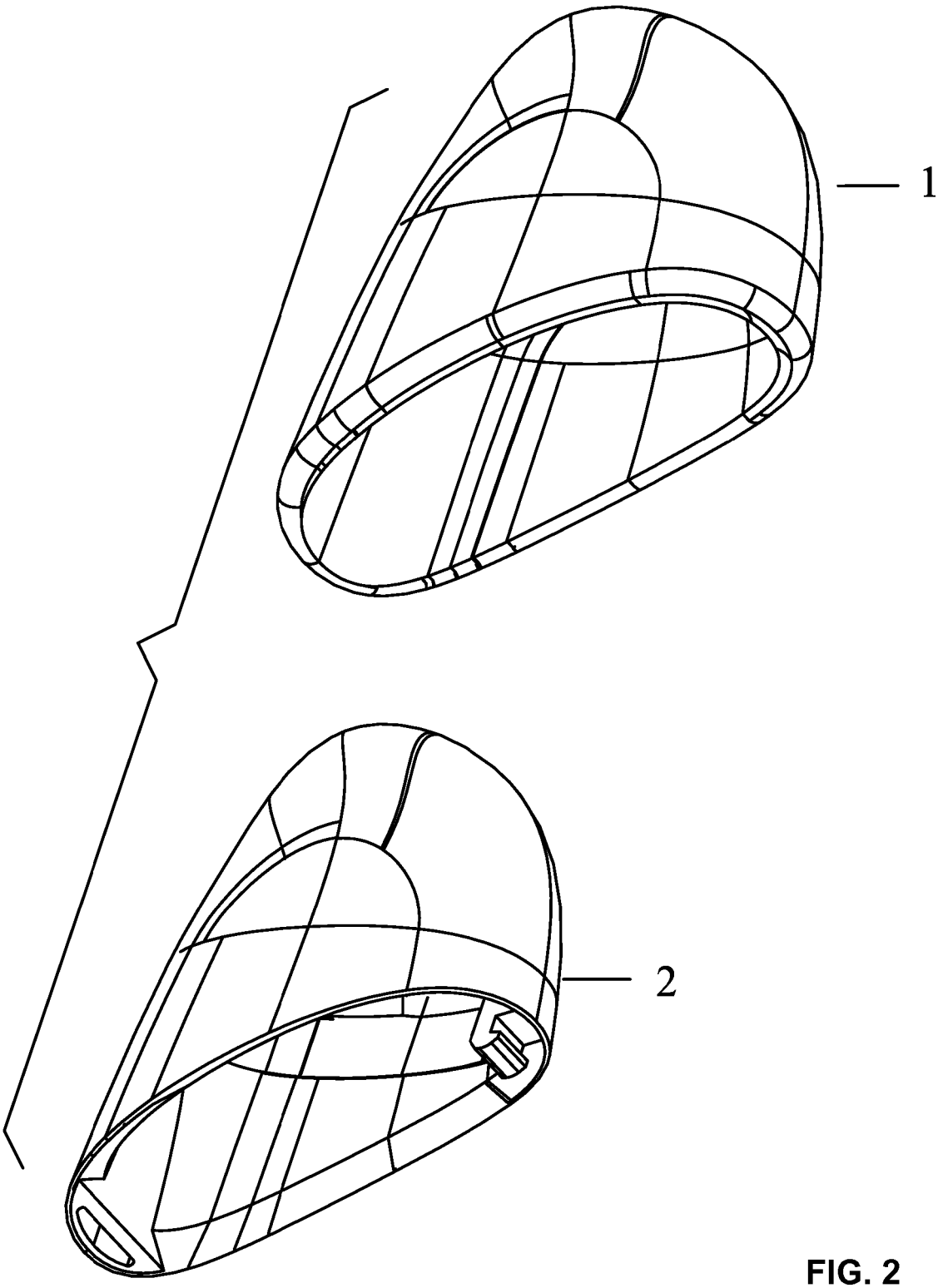

FIG. 2

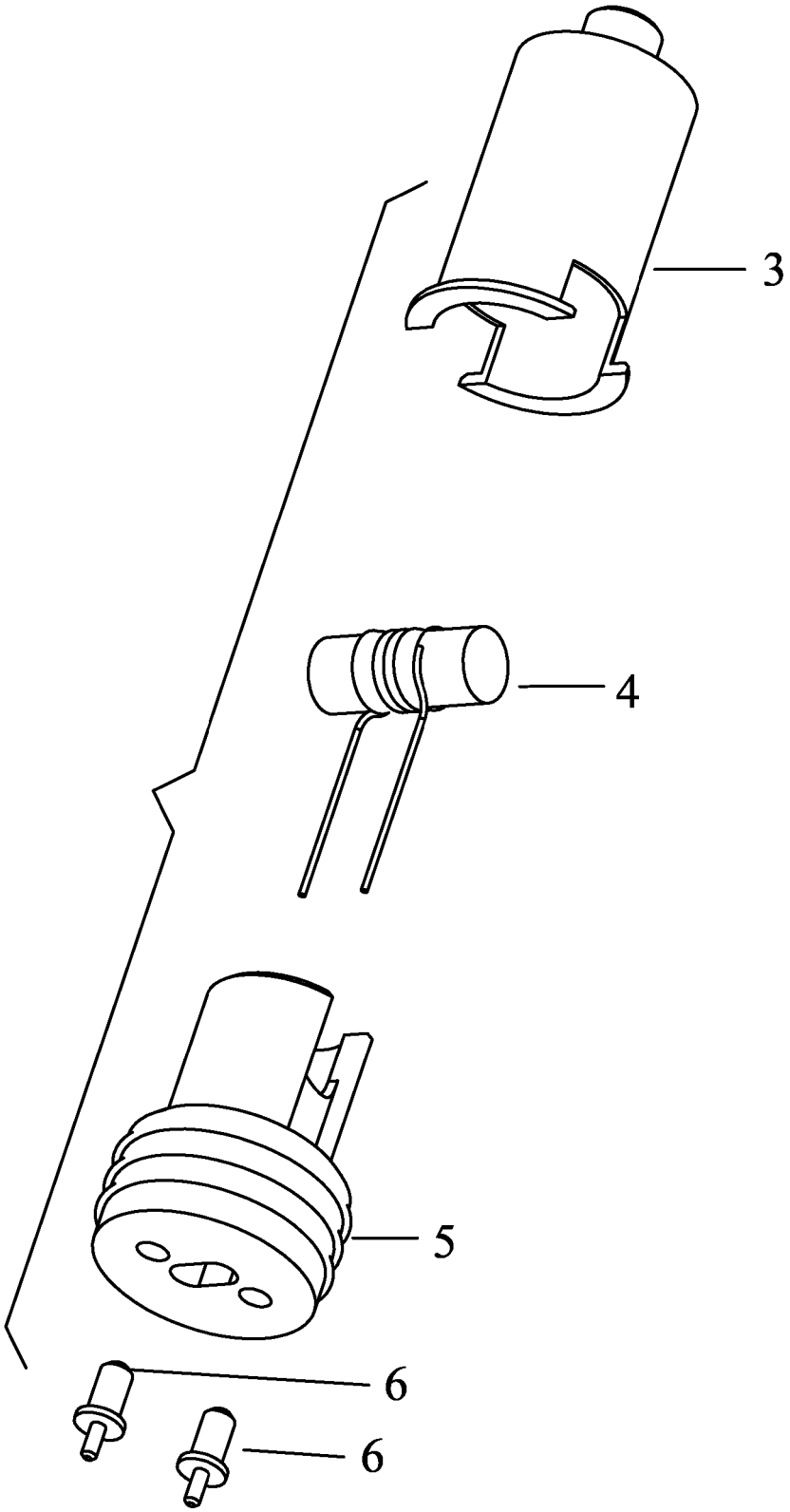

FIG. 3

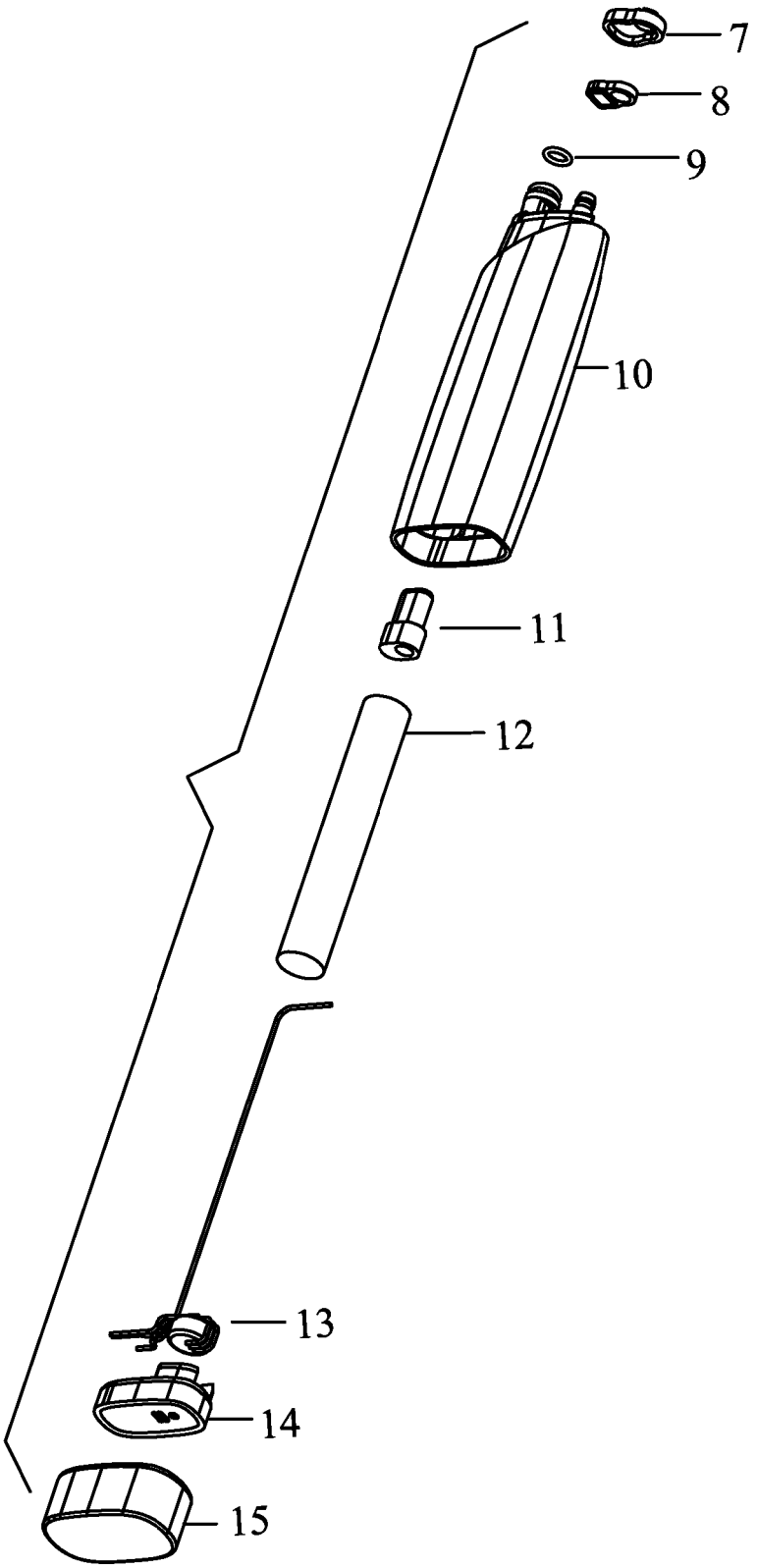

FIG. 4

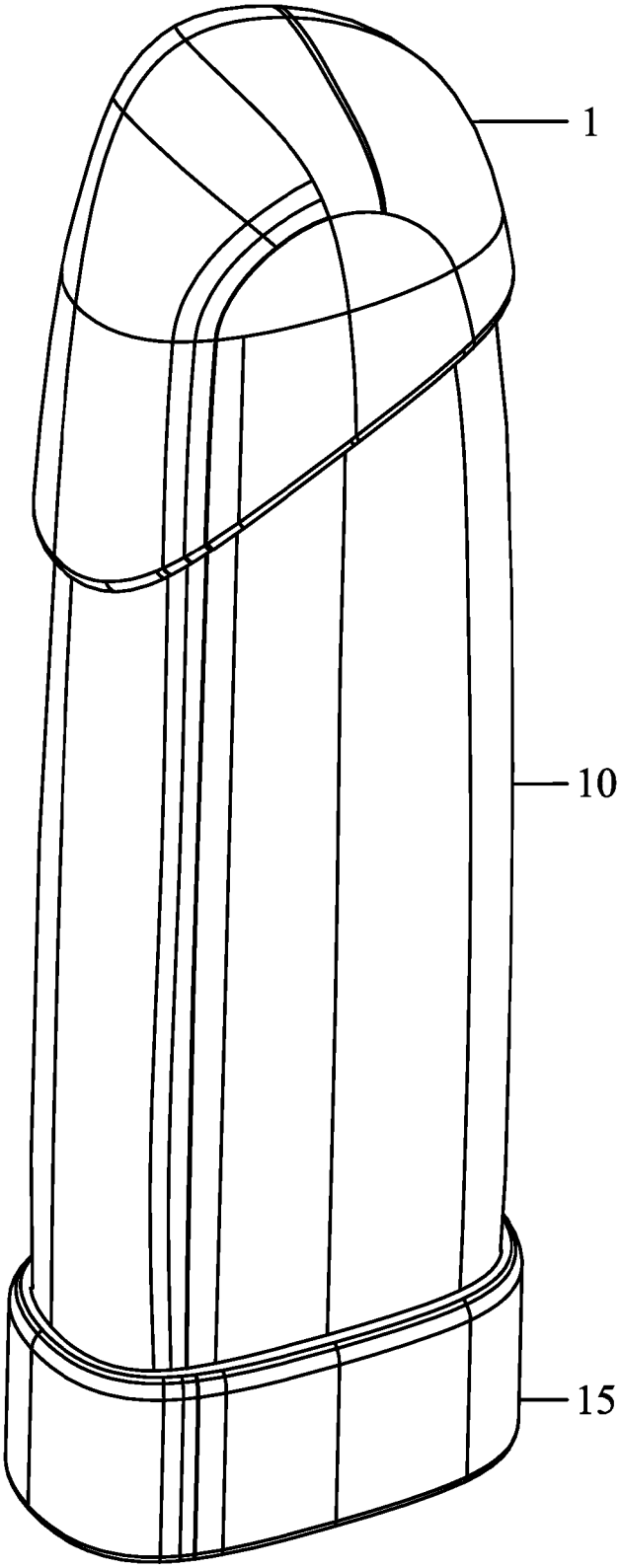

FIG. 5

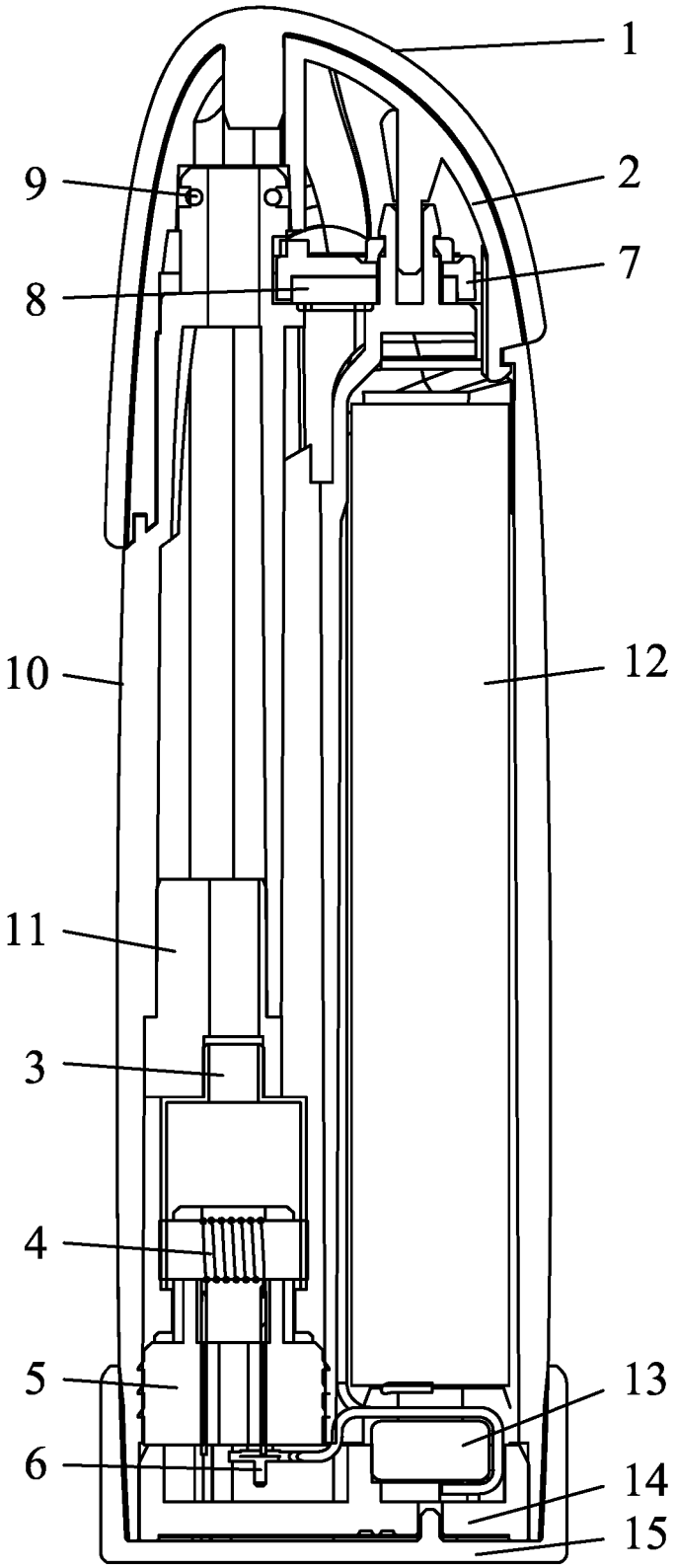

FIG. 6

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- EP 3278679 A1 **[0002]**